IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA Plaintiff, and NATURAL RESOURCES DEFENSE COUNCIL, and SIERRA CLUB Plaintiff-Intervenors v. DTE ENERGY COMPANY, and DETROIT EDISON COMPANY Defendants.	Civil Action No. 2:10-cv-13101-BAF-RSW Judge Bernard A. Friedman Magistrate Judge R. Steven Whalen

PLAINTIFF'S REPLY IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE LEGAL STANDARDS AT ISSUE IN THIS CASE

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Federal Cases

Federal Regulations

State Administrative Code

DTE's various litigation arguments are not only contrary to the Clean Air Act, binding case law, and longstanding EPA implementation, they are also often inconsistent with the Company's own documents or contradicted by the Company's previous assertions. For example, in an internal company document only recently disclosed to the United States, DTE states "***[r]outine maintenance are projects with a capitol cost less than $250,000.***"[1] This cannot be squared with DTE's litigating position that a $35 million boiler renovation project that replaced nearly a million pounds of steel can qualify as routine maintenance. Moreover, in order downplay the massive scope and cost of the Monroe Unit 2 boiler work, DTE now insists that all the work should be evaluated piecemeal even though the Company's witnesses have urged at every opportunity that all of the "boiler tube" work was essentially the same. Such efforts to so obscure the legal analyses pertinent to this case should not be credited.

ARGUMENT

I. THE PROPER ROUTINE MAINTENANCE TEST

In a Power Point presentation only received in discovery by the United States on August 1, 2011, DTE illustrated what it thought qualified as routine maintenance before it was sued: "[r]outine maintenance are projects with a capitol cost less than $250,000." 2009 NSR Presentation (Ex. 1) at DECO000365100. Indeed, in documents submitted to the State, the Company acknowledged that unpermitted "boiler tube" work, such as is at issue here, could result in NSR liability: "[S]everal court cases suggest that boiler tube replacement may not be routine... Companies like Detroit Edison find that it may be best to secure a[n NSR] permit, even if this is a conservative approach to [NSR] applicability, rather than rely on use of a permit exemption." PSD Permit Application [EP19000000491 at 521] (Excerpted at Ex. 2) at 30 (April,

---

[1] Presentation: 2009 Fuel Blending and NSR 2nd Quarter Update [DECO 000365085] (2009 NSR Presentation) (Excerpted at Ex. 1) at DECO000356100 (emphasis added).

2008) (regarding unrelated activities). Moreover, DTE urges that this Court adopt its broad "routine in the industry" test even though the electric industry understood *by 1989* that industry standards of practice were not the emphasis of the routine maintenance test. *See United States v. S. Ind. Gas & Elec. Co.* ("*SIGECo*"), 245 F. Supp. 2d 994, 1019 (S.D. Ind. 2003); *see also* U.S. Routine Maintenance Opp. (ECF No. 126) at 17-19. DTE asks that this Court apply a regulatory interpretation that not even the Company itself adheres to outside the context of litigation. The regulatory routine maintenance exception should not be allowed to swallow the statutory rule that physical changes trigger NSR requirements. *See Wis. Elec. Power Co. v. Reilly* ("*WEPCo*"), 893 F.2d 901, 909 (7th Cir. 1990); *United States v. Ohio Edison Co.,* 276 F. Supp. 2d 829, 855 (S.D. Ohio 2003); *SIGECo*, 245 F. Supp. 2d at 1014-15, 1021; EAB Final Order, Ex. 6 to U.S. Legal Standards MPSJ (ECF No. 117-19) at 394.

DTE's principal argument that EPA has "zig[ged] and zag[ged]" on the proper routine maintenance test is predicated on the false choice between a "routine in the industry" test and a "routine at the unit" test. DTE's Legal Standards Opp. (ECF No. 127) at 10. The Company paints the world in black and white and then complains about the sharp contrast. In fact, EPA's longstanding approach to routine maintenance claims *does* contemplate industry practices—just not in the way DTE would like. *See* U.S. Routine Maintenance Opp. (ECF No. 126) at 4. EPA's measured approach—which considers *both* the practices of the units at issue *and* those of other individual units in the industry—was implemented in the *WEPCo* matter, it is consistent with the Agency's clarification in the 1992 Preamble, it was reiterated in the 2000 DTE Determination, *see id.* at 2-3, and it is fully consistent with those EPA comments DTE proclaims establish the Agency's allegedly "dizzying" inconsistency. *C.f.* DTE's Legal Standards Opp. (ECF No. 127) at 8–9. DTE's real complaint is that EPA does not consider, and has never considered, the regulatory exception to turn on ever-rising, industry-wide tallies of allegedly similar projects. Indeed, DTE tried to convince EPA to agree to such a broad interpretation of routine maintenance in 2000, and EPA rejected it, just as it had in WEPCo, and instead reiterated the "very narrow" approach to routine maintenance set forth in the Clay Memo. *See* DTE Determination, Ex. 4 to U.S. Legal Standards MPSJ (ECF No. 117-17) Encl. at 8-9. And rightly so. The interpretation that DTE asks this court to adopt would (1) let the regulated industry set its own standard for compliance,[2] (2) grant grandfathered facilities indefinite immunity from NSR on an installment plan, one retrofit at a time,[3] and (3) lead to the absurd result that the Clean Air Act's protections would become obsolete while grandfathered plants are renovated again and again. *See* U.S. Routine Maintenance Opp. (ECF No. 126) at 5 & n.7.

Further, the Company attempts to evade the D.C. Circuit's rulings in *Alabama Power* and *New York v. EPA* ("*New York II*"), 443 F.3d 880 (D.C. Cir. 2006), that regulatory exceptions like the one for routine maintenance are limited to *de minimis* activities. DTE's effort falls flat. The D.C. Circuit held in 1979 that "the term 'modification' is nowhere limited to physical changes exceeding a certain magnitude," and thus exceptions to the Clean Air Act's "modification" provision that are not justified "on grounds of *de minimis* or administrative necessity . . . *cannot stand*." *Alabama Power*, 636 F.2d at 400 (italics added). When EPA later proposed to adopt a routine maintenance interpretation to expand the exception beyond its authority to exempt *de minimis* activities, the D.C. Circuit stated in no uncertain terms that "EPA for decades has

---

[2] *United States v. Duke Energy Corp.*, 2010 WL 3023517, at *7 (M.D.N.C. July 28, 2010) (to exalt industry practice over individual unit considerations would be to "allow the industry to render the [NSR] program a nullity by making its own practice the sole standard").

[3] *WEPCo*, 893 F.2d at 909 (excluding like-kind replacements from being a "physical change" for NSR purposes would "open vistas of indefinite immunity" from the Act's requirements); *Ala. Power Co. v. Costle*, 636 F.2d 323, 400 (D.C. Cir. 1979) (grandfathered facilities were not to receive "perpetual immunity" from NSR); *see also Ohio Edison,* 276 F. Supp. 2d at 850.

interpreted ['any physical change'] to mean 'virtually all changes, even trivial ones, . . . generally interpret[ing] the [routine maintenance] exclusion as being limited to *de minimis* circumstances,'" and *vacated* the rule. *New York II*, 443 F.3d at 889-90 (quoting 68 Fed. Reg. 61,248, 61,272 (Oct. 27, 2003)). DTE's attempt to breathe new life into this argument by quoting the Agency's *denied*[4] petition for rehearing to the D.C. Circuit should be rejected. *See* DTE's Legal Standards Opp. (ECF No. 127) at 4.[5]

DTE also urges that EPA's guidance on the appropriate routine maintenance test such as the DTE Determination and EAB Final Order of 2000 post-date the Agency's enforcement initiative and so should be disregarded as "*potentially* self-serving" litigation positions. *See* DTE's Legal Standards Opp. (ECF No. 127) at 5-6 (quoting *United States v. Duke Energy Corp.* ("*Duke I*"), 278 F. Supp. 2d 619, 630 n.8 (M.D.N.C. 2003)) (emphasis added). The argument defies both logic and law. First, the mere fact that EPA undertook enforcement actions against violators of the NSR program over a decade ago cannot mean that the Agency is foreclosed from continuing to implement its statutory mandate or provide guidance on its nation-wide regulatory program. Based on an expansive reading of the 1992 Preamble, a few courts have erroneously concluded that EPA has been inconsistent in its application of the provisions.[6] However, those courts were confronted with projects that *predated* the allegedly inconsistent guidance, and so were faced with the potential concern for retroactive shifts in policy. *See Duke I*, 278 F. Supp. 2d at 624 (projects from 1988 to 2000); *United States v. Ala. Power Co.*, 681 F. Supp. 2d 1292,

---

[4] *See New York v. EPA*, No. 03-1380, Doc. Nos. 977881 (Ex. 3) and 977876 (Ex.4) (D.C. Cir. June 30, 2006) (denying EPA's petitions for rehearing and rehearing en banc respectively).

[5] *See also* ECF No 127 at 4 n.2 & 9 (citing EPA remarks in 2003 about the *de minimis* rationale that were subsequently contradicted by *New York II*, 443 F.3d at 888-90).

[6] *See, e.g., United States v. S. Ind. Gas & Elec. Co.*, No. IP99-1692-C-M/S, 2002 WL 31427523, at *9-*10 (S.D. Ind. Oct. 24, 2002) (holding the test described in the DTE Determination to be consistent with the analysis set forth prior to the NSR enforcement initiative).

1309 (N.D. Ala. 2008) (projects from 1985 to 1993). This is not the case here, where DTE's projects followed *ten years after* the guidance it argues should be ignored.

Second, as indicated by recent Supreme Court precedent, whether an agency document is "*potentially* self-serving" cannot be sufficient reason to withhold deference to the agency's interpretation outlined therein. *See Chase Bank USA, N.A. v. McCoy*, 131 S. Ct. 871, 881-82 (2011) (applying and explaining the "controlling" weight afforded to an agency's reasonable interpretation of its own regulations under *Auer v. Robbins*, 519 U.S. 452, 461 (1997)); *see also Talk America, Inc. v. Mich. Bell Telephone Co.*, 131 S. Ct. 2254, 2263-64 (2011) (extending *Auer* deference to an agency's novel interpretation advanced in a litigation brief). EPA's DTE Determination and EAB Final Order reviewed past Agency determinations and exercised careful judgment regarding the projects *then* before it by applying the approach outlined in the *WEPCo* matter, which DTE admits applies here. *See* DTE Determination (ECF No. 117-17) at Encl. 10-11; EAB Final Order (ECF No. 117-19) at 391-411. Other than underscoring the date of their issuance (which remains a decade prior to the work at issue), DTE has provided "no reason to suspect that the interpretation[s do] not reflect the agency's fair and considered judgment on the matter[s] in question," nor any reason why the rule of deference the Supreme Court described in *Auer* should not apply here. *Chase Bank*, 131 S. Ct. at 881 (quoting *Auer*, 519 U.S. at 462).

Ultimately, the D.C. Circuit, the majority of the district courts that have considered the issue, and EPA agree that the routine maintenance exemption must be a narrow one. For its contrary position, DTE relies on a stew of vague statements by EPA that did not construe the regulatory exception at all,[7] do not have the force of law,[8] or "largely replicate[d] the ambiguity

[7] *See* DTE's Legal Standards Opp. (ECF No. 127) at 7-8 (describing the "Dingell inquiry"); *c.f. SIGECo*, 245 F. Supp. 2d at 1020 (holding that EPA's "statement [to Congressman Dingell] does not construe routine maintenance").

present in the regulatory text."[9] *Chase Bank*, 131 S. Ct. at 882. This Court should not be "persuaded by [DTE's] attempt to obfuscate the multi-factor analysis for the [routine maintenance] exclusion." *United States v. Cinergy Corp.*, 495 F. Supp. 2d 909, 932 (S.D. Ind. 2007).

II. AGGREGATION

There is no question that DTE's work on the economizer, reheater, and waterwalls at Monroe Unit 2 was done on the same boiler, at the same time, by the same work force, and for the same purpose. *See, e.g.*, Sealed Ex. 1 to U.S. Opp. to DTE's 2002 NSR Reform MSJ (ECF No. 115-1) at 11, 14, 15; *C.f. United States v. Murphy Oil USA, Inc*, 155 F. Supp. 2d 1117, 1141 (W.D. Wis. 2001) ("In light of the evidence that the two projects were planned and implemented almost simultaneously and modified the same process unit, I will treat them as one."); 3M Maplewood Determination (ECF No. 117-20) at 4 (considering, *inter alia*, coordinated planning and execution of work, the physical proximity of the work, and whether the work effected the same stages of the production process). DTE's designated 30(b)(6) witness indicated in an exhibit to his testimony that the same individuals "planned, managed, and supervised" each of the component replacements. *See* (ECF No. 115-1) at 14. Indeed, DTE's own purported routine maintenance expert indicated that the boiler components at issue had the same "failure mechanisms," *see* Declaration of Jerry Golden (ECF No. 46-10) at 16–17, and that their

[8] *See* DTE's Legal Standards Opp. (ECF No. 127) at 9 (citing the transcript of ABA Update re Clean Air Act (ECF No. 15-12)); *id.* at 4 (relying on EPA's *denied* petition for rehearing *en banc* in *New York II*).

[9] *Compare* DTE's Legal Standards Opp. (ECF No. 127) at 3, 9 (citing 1992 preamble language in 57 Fed. Reg. 32,314, 32,326 (July 21, 1992)) *with SIGECo*, 245 F. Supp. 2d at1019, 1021 (1992 preamble language "does not clarify much" about the routine maintenance test, nor did it mark a shift from EPA's approach in the 1988 Clay Memo which "put the regulated community on notice that how frequently projects occur in a unit's expected life cycle was a very significant factor in the routine maintenance inquiry").

replacements shared a common purpose: "to avoid future forced or maintenance outages." *Compared id.* at 60 *with id.* at 66.

Additionally, DTE's current assertion that its Monroe 2 boiler work should not be aggregated for NSR purposes cannot be squared with the Company's own representations in this case which have, time and again, asserted that boiler tubes should be treated alike no matter what component they comprise. *See, e.g.*, 30(b)(6) Deposition of Skiles Boyd (June 29, 2001) (Excerpted at Ex. 5) at 174-75 ("Whether it's an economizer, reheater or boiler tube walls, they're all boiler tube projects").[10] Moreover, DTE has continually treated *the very work at issue* as a single project. *See* DTE Notification Letter, Ex. 5 to U.S. Opp. to DTE NSR Reform MSJ (ECF No. 114-4) (consolidating the work when projecting post-project emissions); *see also* Letter from M. Solo (DTE) to S. Argentieri (EPA) (Ex. 1 to U.S. Opp. to DTE's Motion for a Protective Order, ECF No. 85-2) at 2 ("As set forth in DTE's March 12, 2010 planned outage notification letter to the [state] permitting authority . . . *this project* does not require a permit." (emphasis added)). DTE cannot have it both ways, insisting throughout this litigation that *this* work—indeed all boiler tube work—is all essentially the same while arguing on the other hand that the individual component work should be considered separately for NSR purposes.

III. THE DEMAND GROWTH EXCEPTION

DTE's arguments with regard to the demand growth exception deal with numerous aspects of the Company's liability—but few of them have anything to do with the application of the demand growth exception. First, DTE restates its summary judgment argument that only

[10] *See also* Deposition of Leonard Ernest Kantola (June 7, 2011) (Excerpted as Ex. 6) at 203-204 ("They're just tubes. The boiler is full of tubes. In some cases, you'll replace a bunch of different tubes all over the place and in some cases, you replace a bunch of tubes in one area, and it's all tubes. . . In outages that I personally managed, we replaced reheat pendants, super heat pendants, economizers, waterwall. It's just tubes.").

actually observed emissions increases can form the basis of liability under the NSR program. *See* DTE's Legal Standards Opp. (ECF No. 127) at14. However, the Company makes no attempt to explain how such *post*-project observations can form the sole basis for liability under a statutorily mandated *pre*construction program. *C.f.* U.S. Opp. (ECF No. 114) at 5-6.[11]

DTE also confuses the issues, arguing at length that about the requisite causal link between the projects at issue and reasonably expected emissions increases. *See* DTE's Legal Standards Opp. (ECF No. 127) at 15-19. However, the demand growth exception imposes distinct (though related) burdens on a utility that seeks to exclude a portion of its anticipated emissions increases from the NSR calculus. In fact, the very court DTE cites to underscore the causation requirement placed the burden of proving exclusions under the demand growth exception squarely on the utility. *See id.* at 19 (citing *United States v. Cinergy Corp.*, 2005 WL 3018688, at *3 (S.D. Ind. Nov. 9, 2005)); *United States v. Cinergy Corp.*, Final Jury Instructions, Ex. 1 to U.S. Legal Standards MPSJ (ECF No. 117-2) at Instruction 23 ("The burden is on Defendants to prove by a preponderance of the evidence that the demand growth exclusion applies to an emissions increase.").

[11] DTE also attempts to avoid the clear implications of EPA's Columbia Generating decision (Ex. 13 to U.S. Opp. to DTE NSR Reform MSJ (ECF. No. 114-8). However, DTE's misleading use of EPA's footnote in the 2002 rules entirely ignores the context of EPA's comment. *See* DTE's Legal Standards Opp. (ECF No. 127) at 15 n.9 (quoting 67 Fed. Reg. 80,186, 80,194 (Dec. 31, 2002). The footnote quoted by DTE addresses the "normal operations" language as it related to a test for calculating emissions increases at sources *other than electricity generating units*, a test neither at issue in EPA's Columbia Generating decision, nor in this case. *See* 67 Fed. Reg. at 80,194. The logic of EPA's decision in Columbia Generating remains fully applicable to the instant matter, DTE's diversion notwithstanding. Of course, this is not the only instance that DTE has selectively omitted important context from its citation to an EPA Preamble: DTE claimed that EPA's clarifying statement in the 1992 preamble "codified" the Company's desired approach to the routine maintenance test even though EPA stated, in the same paragraph, that neither the proposed nor final rule changes "deal[t] with this aspect of the regulations." *See* ECF No. 127 at 8 n.5; 57 Fed. Reg. at 32,326.

Further, DTE admits that utilities are required to "document their preconstruction determinations" with regard to projected, post-project emissions, *see* DTE's Legal Standards Opp. (ECF No. 127) at 15, but fails to understand is that merely *invoking* the demand growth exception in their emissions calculations is a far cry from *substantiating* it. *C.f.* DTE "Notification Letter" (March 12, 2010), Ex. 5 to U.S. Opp. to DTE NSR Reform MSJ (ECF No. 114-4); (ECF No. 114) at 19 ("[T]he text of [DTE's] Notice Letter provided no analysis specific to the project and no explanation of *why* any emissions were excluded."). Moreover, DTE overlooks the requirement's relationship to the demand growth exception. DTE concedes that the Northampton Determination (ECF No. 117-21) articulated "fairly unexceptional principles relating to the 'capable of accommodating' analysis." DTE's Legal Standards Opp. (ECF No. 127) at 16. In Northampton, EPA stepped through the process a utility should follow when calculating its post-project emissions: after calculating its baseline and its maximum annual emissions rate in the five years following the project, a company should

> Step 3. Examine the portion of post-change emissions and determine if any of such emissions above the baseline are not related to the project. If any of the emissions are [1] not related, and [2] the emissions unit(s) could have emitted at this level before the change if operated as projected, then those emissions may be removed from the [projected actual emissions] calculation.

Northampton Determination (ECF No. 117-21) at 4; *see also* MICH. ADMIN. CODE R. 336.2801(ll)(ii)(C) (setting forth the two-pronged demand growth exception). Thus, the demand growth exception allows utilities to subtract some increases that are unrelated to the project from its projection of total future emissions. A utility's entirely unsubstantiated claim that *all* projected increases are excludable—like the one DTE provided MDEQ in this case[12]—does not suffice to "document" the Company's preconstruction determination under the D.C. Circuit's

[12] *See* U.S. Opp. to DTE's 2002 NSR Reform MSJ (ECF No. 114) at 18-19.

decision in *New York I*, *see* U.S. Legal Standards MPSJ (ECF No. 117) at 19, nor does it pass muster under applicable regulations. *See* 40 C.F.R. § 52.21(r)(6)(i)(c) & MICH. ADMIN. CODE R. 336.2818(3)(a)(iii) (requiring that a source explain why a certain amount was excluded under the exception). DTE may not simply wave away the entire projected emissions increase. If the Company wanted to rely on the demand growth exception, it needed to substantiate which portion of the increase was unrelated to the project.

Finally, DTE objects to its own version of the United States' position on the demand growth exception, once again mischaracterizing EPA's interpretation in order to cast it as absurd or contrary to past comments. *See* DTE's Legal Standards Opp. (ECF No. 127) at 17. Contrary to DTE's assertion, the United States' point is the same made by EPA in the Northampton Determination: in addition to excluding only "unrelated" emissions increases, "a facility can only subtract that portion of the projected actual emissions that the unit(s) could have *already* physically and legally emitted during the baseline period." (ECF No. 117-21) at 4 (emphasis added). If Monroe 2 could not have realistically "operated as projected" during its baseline period, *see id.*, the portion of its post-project emissions increases that were enabled by the work at issue cannot be excluded from its NSR assessment.

CONCLUSION

For the foregoing reasons, this court should grant the United States motion for partial summary judgment on the legal standards at issue in this case.

Respectfully Submitted,

IGNACIA S. MORENO
Assistant Attorney General
Environment & Natural Resources Division

Dated: August 10, 2011

s/ Elias L. Quinn

JAMES A. LOFTON
JUSTIN A. SAVAGE
JAMES W. BEERS, JR.
THOMAS A. BENSON (MA Bar # 660308)
KRISTIN M. FURRIE
ELIAS L. QUINN (CO Bar # 42159)
Environmental Enforcement Section
U.S. Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611
(202) 514-5261
thomas.benson@usdoj.gov

BARBARA McQUADE
United States Attorney
Eastern District of Michigan

ELLEN CHRISTENSEN
Assistant United States Attorney
211 W. Fort St., Suite 2001
Detroit, MI 48226

OF COUNSEL:
SABRINA ARGENTIERI
MARK PALERMO
SUSAN PROUT
Associate Regional Counsel
U.S. EPA Region 5
Chicago, IL
77 W. Jackson Blvd.

APPLE CHAPMAN
Associate Director
Air Enforcement Division
U.S. EPA
1200 Pennsylvania Ave. NW
Washington D.C. 20460

CERTIFICATE OF SERVICE

I hereby certify that on August 10, 2011, the foregoing reply brief and associated exhibits were served via ECF on counsel of record, and exhibits filed under seal were served on counsel of record via email.

s/ Elias L. Quinn
Counsel for the United States

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA Plaintiff, and NATURAL RESOURCES DEFENSE COUNCIL, and SIERRA CLUB Plaintiff-Intervenors v. DTE ENERGY COMPANY, and DETROIT EDISON COMPANY Defendants.	Civil Action No. 2:10-cv-13101-BAF-RSW Judge Bernard A. Friedman Magistrate Judge R. Steven Whalen

PLAINTIFF'S REPLY IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE LEGAL STANDARDS AT ISSUE IN THIS CASE

Appendix A

Index of Exhibits

Exhibit No.	Description
1	SEALED Excerpt from DTE Energy presentation entitled, "2009 Fuel Blending and NSR 2nd Quarter Update" (DECO000365085, 365094-365114)
2	Excerpt from Prevention of Significant Deterioration, Air Pollution Control Permit to Install Application, Fuel Optimization and Air Quality Improvement Project for the Monroe Power Plant, April 2008 (EP190000000491-501; 521-532)

3	Order denying respondent's petition for rehearing, *New York v. EPA*, No. 03-1380, Doc. No. 977881 (D.C. Cir. June 30, 2006)
4	Order denying respondent's petition for rehearing en banc, *New York v. EPA*, No. 03-1380, Doc. No. 977881 (D.C. Cir. June 30, 2006)
5	SEALED Excerpt from June 29, 2011 Rule 30(b)(6) Deposition of Skiles Boyd, *United States v. DTE Energy Co.*, No. 2:10-cv-13101-BAF-RSW (E.D. Mich.)
6	SEALED Excerpt from June 7, 2011 Deposition of Leonard Kantola, *United States v. DTE Energy Co.*, No. 2:10-cv-13101-BAF-RSW (E.D. Mich.)

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA Plaintiff, and NATURAL RESOURCES DEFENSE COUNCIL, and SIERRA CLUB Plaintiff-Intervenors v. DTE ENERGY COMPANY, and DETROIT EDISON COMPANY Defendants.	)	Civil Action No. 2:10-cv-13101-BAF-RSW Judge Bernard A. Friedman Magistrate Judge R. Steven Whalen

PLAINTIFF'S REPLY IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE LEGAL STANDARDS AT ISSUE IN THIS CASE

Exhibit 1

FILED UNDER SEAL

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA Plaintiff, and NATURAL RESOURCES DEFENSE COUNCIL, and SIERRA CLUB Plaintiff-Intervenors v. DTE ENERGY COMPANY, and DETROIT EDISON COMPANY Defendants.	Civil Action No. 2:10-cv-13101-BAF-RSW Judge Bernard A. Friedman Magistrate Judge R. Steven Whalen

PLAINTIFF'S REPLY IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE LEGAL STANDARDS AT ISSUE IN THIS CASE

Exhibit 2

Prevention of Significant Deterioration

Air Pollution Control Permit to Install Application

Fuel Optimization and Air Quality Improvement Project for the Monroe Power Plant.

Detroit Edison
Monroe Power Plant

April, 2008

Prepared for:

Detroit Edison
2000 2nd Avenue
Detroit, MI 48226

Prepared By:

RTP ENVIRONMENTAL ASSOCIATES INC.®
903 Superior Avenue, Suite 6
Tomah, WI 54660

EP190000000491

EXHIBIT
US-109
6-29-11 mc
PENGAD 800-631-6989

Executive Summary

Detroit Edison is planning a Fuel Optimization and Air Quality Improvement Project for the Monroe Power Plant Units 3 and 4. The fuel optimization component will include boiler system changes to allow increased use of low sulfur, Powder River Basin (PRB) subbituminous coals, and the use of petroleum coke as a new fuel. The air quality improvement component will include the installation of wet flue gas desulfurization (wet FGD) and selective catalytic reduction (SCR) systems on Units 3 and 4. This Project will also include new material handling systems necessary to support the FGD systems. When completed, this Project will result in substantial reductions in potential and actual emissions of nitrogen oxides (NO_x), particulate matter (PM), sulfur dioxide (SO_2), mercury (Hg), sulfuric acid mist (H_2SO_4), lead (Pb), and fluorides (as HF).

Detroit Edison has already installed the SCR systems on Units 3 and 4, and is currently constructing the wet FGD systems for these units. Detroit Edison plans to continue to operate Units 3 and 4 in accordance with the current renewable operation permit throughout the construction period. The fuel optimization changes, including the boiler changes to allow increased use of subbituminous coals, and the use of petroleum coke as a new fuel, will not be implemented until Units 3 & 4 are controlled by the SCR and wet FGD systems and are subject to the BACT emission limits proposed in this permit to install (PTI) application.

Prevention of Significant Deterioration Applicability.

While this Project may be exempt from PSD review, either because the change is not a "physical change or change in the method of operation" as defined at R. 336.2801(aa)(iii), or because the project will not result in a significant net emissions increase of a PSD regulated pollutant, Detroit Edison is nevertheless proposing that this project undergo PSD review. When the "net emissions increase" for this Project, as defined in rule R. 336.2801(ee), is based on a comparison of past actual emissions to future potential emissions without BACT control requirements or emission limits, the project would result in a significant net emission increase for carbon monoxide (CO), NO_x, PM, SO_2, VOC, Pb, H_2SO_4, and fluorides.

Based on this conservative PSD applicability analysis, Detroit Edison has conducted a control technology review for each pollutant, and has proposed control technologies and emission limits which represent the best available control technology (BACT) for each pollutant as required under the PSD program. When the baseline (past) actual emissions are compared to the projected (future) actual emissions based on the proposed BACT limits in this PTI application, this Project will result in substantial reductions in emissions of NO_x, PM, SO_2, H_2SO_4, lead (Pb), and HF. Table ES-1 is a summary of the project emission changes based on this comparison of baseline actual emissions to projected actual emissions with the proposed BACT emission limits in this application.

TABLE ES-1. Comparison of the past actual to projected actual emissions for the Monroe Power Plant Units 3 and 4 Fuel Optimization and Air Quality Improvement Project.

POLLUTANT		Past Actual, Ton/year	Projected Actual with BACT Controls, Ton/year	Net Emission Increase (Decrease), Ton/year
Carbon Monoxide	CO	10,472	10,472	**0.0**
Nitrogen Oxides	NO_x	17,985	4,400	**(13,585.4)**
Particulate Matter	PM	1,222	855	**(366.5)**
Particulate Matter	PM_{10}	1,222	855	**(366.5)**
Sulfur Dioxide	SO_2	54,561	6,600	**(47,961.6)**
Volatile Organic Cmpds	VOC	154.0	154.0	**0.0**
Lead	Pb	3.96	1.06	**(2.9)**
Fluorides (as HF)	HF	388.2	33.3	**(355.0)**
Sulfuric Acid Mist	H_2SO_4	835.5	281.6	**(553.9)**

Changes to Potential Emissions.

The changes to the potential to emit for the Monroe Units 3 and 4 based on the proposed limits in this Permit to Install application are summarized in Table ES-2. From Table ES-2, the Fuel Optimization and Air Quality Improvement Project will result in significant reductions to potential emissions of CO, NO_x, PM, SO_2, VOC, Pb, H_2SO_4, and fluorides.

TABLE ES-2. Changes to the potential to emit for the Monroe Power Plant Units 3 and 4 Fuel Optimization and Air Quality Improvement Project. All emissions in tons per year.

POLLUTANT		Current Potential to Emit	Proposed Potential to Emit with BACT Controls	Change to the Potential to Emit
Carbon Monoxide	CO	15,895	15,895	**0**
Nitrogen Oxides	NO_x	34,061	6,679	**(27,382)**
Particulate Matter	PM	10,419	2,004	**(8,415)**
Particulate Matter	PM_{10}	10,419	2,004	**(8,415)**
Sulfur Dioxide	SO_2	106,858	10,018	**(96,840)**
Volatile Org. Cmpds	VOC	234	234	**0**
Lead	Pb	6.01	1.61	**(4.4)**
Fluorides (as HF)	HF	842	50	**(791)**
Sulfuric Acid Mist	H_2SO_4	1,069	427	**(641)**

Control Technology Review

Based on the above regulatory analysis, a control technology review or Best Available Control Technology (BACT) analysis was performed in accordance with R 336.2810 for emissions of CO, NO_x, PM, SO_2, VOC, Pb, H_2SO_4, and fluorides from the Monroe Units 3 and 4. As a result of this control technology review, Detroit Edison is proposing to utilize advanced air pollution control technologies for these pulverized coal-fired boilers, including: (1) Low NO_x cell burners and good combustion practices for NO_x, CO, and VOC control, (2) selective catalytic reduction (SCR) for additional NO_x control, (3) the existing dry electrostatic precipitators (ESP) for particulate matter, lead, and sulfuric acid mist control, and (4) wet flue gas desulfurization (wet FGD) for SO_2, fluorides, sulfuric acid mist, and other acid gas control. The proposed BACT control technologies and emission limits are summarized in Table ES-3.

Detroit Edison is not proposing specific BACT emission limits for CO, VOC, lead, fluorides, and sulfuric acid mist. As the Michigan Department of Environmental Quality has concluded in other BACT determinations, the regulations governing BACT allow a determination that technological or economic limitations on the measurement methodology can make an emission standard infeasible. In this case, a design, equipment, work practice, or operational standard may be required as BACT. Detroit Edison is proposing the design, operational, and BACT standards described in Table ES-3 to satisfy the BACT requirements for these pollutants.

TABLE ES-3. Summary of the proposed control technologies and emission limits representing BACT for the Monroe Units 3 and 4. Potential emissions are for each unit.

POLLUTANT	PROPOSED CONTROL TECHNOLOGY	PROPOSED LIMIT, lb/mmBtu	POTENTIAL TO EMIT, tons per year
Carbon Monoxide (CO)	Good Combustion Practices	Good Combustion Practices	7,948
Nitrogen Oxides (NO_x)	Low NO_x Cell Burners and Selective Catalytic Reduction	0.10	3,339
Particulate Matter (PM)	Dry Electrostatic Precipitator and Wet Flue Gas Desulfurization	0.03	1,002
Particulate matter < 10 microns (PM_{10})	Dry Electrostatic Precipitator and Wet Flue Gas Desulfurization	0.03	1,002
Sulfur Dioxide (SO_2)	Washed Design Coal and Wet Flue Gas Desulfurization	0.15	5,009
Volatile Organic Compounds (VOC)	Good Combustion Practices	Good Combustion Practices	116.9
Lead (Pb)	Dry Electrostatic Precipitator and Wet Flue Gas Desulfurization	PM BACT Limit	0.8
Fluorides	Dry Electrostatic Precipitator and Wet Flue Gas Desulfurization	SO_2 BACT Limit	25.3
Sulfuric Acid Mist (H_2SO_4)	Dry Electrostatic Precipitator and Wet Flue Gas Desulfurization	SO_2 BACT Limit	213.7

Fuel Optimization Project

The fuel optimization component will include boiler changes to allow increased use of low sulfur, Powder River Basin (PRB) subbituminous coals, and the use of petroleum coke as a new fuel.

The Unit 3 and 4 boilers were designed to fire high sulfur, high Btu coals. To reduce SO_2 emissions, Detroit Edison now fires a significant percentage of low sulfur PRB coals in these units. While the use of these PRB coals has reduced SO_2 emissions, the lower heat value of these coals limits the amount of these PRB coals that can be fired. These units can now fire up to about 60% PRB coals blended with 40% medium sulfur eastern coals without reducing the total heat input to the point that the units become derated. Detroit Edison is proposing changes to the units which will allow up to 75% PRB coals blended with 40% medium sulfur eastern coals. The changes would include replacing primary air fan rotors and motors, changes to the air heaters, and changes to coal mills. These changes will not change the maximum rated heat input to these boilers.

Detroit Edison is also seeking a permit change to allow the use of petroleum coke. Petroleum coke has many properties similar to coal, and therefore the Monroe units 3 and 4 have always had the capability to burn petroleum coke. Based on the PSD rules, R. 336.2801(aa)(iii)(E), the use of petroleum coke in these units cannot be considered a physical change subject to the definition of major modification under the PSD or NSR programs. Detroit Edison expects that the use of petroleum coke will not exceed approximately 5% of the annual fuel consumption for these units on a heat input basis.

The New Source Performance Standards (NSPS) also require a permit prior to modifying an emission unit. Under the NSPS program, *modification* means any physical or operational change which results in an increase in the emission rate of any pollutant to which a standard applies, with emission rate expressed on a kilogram (or pound) per hour basis. Pollutants for which standards apply under 40 CFR Part 60, Subpart Da include limits for NO_x, SO_2, PM, PM_{10}, and mercury. Because these changes will not change the maximum rated heat input to these boilers, these changes will not increase the maximum hourly emission rates for these boilers. Therefore, these proposed changes will not be a modification under the NSPS program.

Dispersion Modeling Analysis

Detroit Edison conducted a detailed dispersion modeling analysis in response to a meeting between Detroit Edison and the Michigan Department of Environmental Quality (MDEQ) regarding the Monroe Power Plant in 2006. This analysis was submitted to the MDEQ in January, 2007. A summary of the NAAQS and PSD Class II increment modeling results from this analysis are shown in Tables ES-3 and ES-4, respectively. The results of this dispersion modeling analysis demonstrate that Fuel Optimization and Air Quality Improvement Project for the Monroe Power Plant Units 3 and 4 will not cause nor contribute to an exceedance of any National Ambient Air Quality Standards (NAAQS) or applicable PSD Class II increment.

The January, 2007 dispersion modeling analysis was based on higher proposed allowable emission limits for particulate matter and SO_2 than the limits proposed in this application. Therefore, the January, 2007 dispersion modeling analysis summarized in Tables ES-3 and ES-4 is a conservative or high analysis of actual impacts resulting from this Project.

TABLE ES-3. National Ambient Air Quality Standard (NAAQS) modeling results for the Monroe Power Plant based on the proposed emission limits in this permit application.

Pollutant	Averaging Period	Modeled Impacts, $\mu g/m^3$	NAAQS, $\mu g/m^3$
Carbon Monoxide (CO)	1-Hour	187.3	40,000
	8-Hour	63.3	10,000
Nitrogen Oxides (NO_2)	Annual	2.6	100
Particulate Matter (PM_{10})	24-hour	16.9	150
	Annual	1.0	50
Sulfur Dioxide (SO_2)	3-hour	332.4	1,300
	24-hour	84.3	365
	Annual	5.3	80

TABLE ES-4. PSD increment modeling results for the Monroe Power Plant based on the proposed emission limits in this permit application.

Pollutant	Averaging Period	Modeled Impacts, $\mu g/m^3$	PSD Class II Increment, $\mu g/m^3$
Carbon Monoxide (CO)	1-Hour	187.3	n/a
	8-Hour	63.3	n/a
Nitrogen Oxides (NO_2)	Annual	2.6	25
Particulate Matter (PM_{10})	24-hour	16.9	30
	Annual	1.0	17
Sulfur Dioxide (SO_2)	3-hour	332.4	512
	24-hour	84.3	91
	Annual	5.3	20

Table of Contents

Tables and Figures

Attachments

Chapter 1. Introduction.

Detroit Edison is planning a Fuel Optimization and Air Quality Improvement Project for the Monroe Power Plant Units 3 and 4. The fuel optimization component of this Project will include boiler changes to allow increased use of low sulfur, Powder River Basin (PRB) subbituminous coals, and the use of petroleum coke as a new fuel. The air quality improvement component will include the installation of wet flue gas desulfurization (wet FGD) and selective catalytic reduction (SCR) systems on the existing Units 3 and 4. This Project will also include new limestone and gypsum material handling systems necessary to support the FGD systems. Based on the proposed limits in this application, this Project will result in substantial reductions to actual and potential emissions of nitrogen oxides (NO_x), particulate matter (PM), sulfur dioxide (SO_2), mercury (Hg), sulfuric acid mist (H_2SO_4), lead (Pb), hydrogen chloride (HCl), and fluorides (as HF).

1.1 Contents of this application.

Chapter 2 includes a detailed description of the proposed project, including a project schedule.

Chapter 3 includes a summary of the proposed emission limits representing BACT. The control technology review (BACT) analysis is attached with this permit application as Attachment A.

Chapter 4 includes a detailed analysis of potential air emissions for the Monroe Power Plant Units 3 and 4.

Chapter 5 includes an analysis of past baseline actual emissions, future projected actual emissions, and an analysis of the applicability of the New Source Review and Prevention of Significant Deterioration programs to this project.

Chapter 6 is a dispersion modeling analysis using AERMOD.

Chapter 7 includes an additional impacts analysis as required under the PSD regulations in R 336.2815.

Chapter 8 is a discussion of state and federal mercury control requirements.

Chapter 5. New Source Review Applicability Determination.

At the outset of this analysis, Detroit Edison would like to make it clear that the Company believes that this project does not require Prevention of Significant Deterioration (PSD) or Nonattainment Area New Source Review (NNSR) review. Detroit Edison is submitting this permit application in an abundance of caution because of the uncertainties of the PSD and NNSR regulations. The company believes that the changes proposed in this application could be made without a new source review permit. Petroleum coke could be added to the fuel mix at the Monroe Power Plant without a permit, since this addition does not represent a "physical change or change in the method of operation" as defined at 40 CFR Part 52.21(b)(2)(iii)(e)(1). This section clearly states that a physical change or change in the method of operation does not include "use of an alternative fuel or raw material by a stationary source which the source was capable of accommodating before January 6, 1975...". Petroleum coke is similar to the coal which is burned at Monroe, and the company has been burning western subbituminous coal as part of the Company's sulfur dioxide compliance strategy since the 1980's.

In addition, under Michigan Rule 285 (b), this change is exempt because it does not represent a "meaningful change in the quality and nature or any meaningful increase in the quantity of the emissions of any air contaminant." Burning western coal or petroleum coke will not significantly affect criteria or air toxics emissions, nor will it affect ambient impacts. An analysis supporting this exemption is included in Attachment C to the permit.

Finally, regardless of whether or not these changes may be considered physical changes subject to the definition of modification, this project, including the addition of the SCR and wet FGD systems, will result in substantial *reductions* to PSD-regulated pollutants, so that a significant net emission increase will not occur as a result of this project.

Unfortunately, the applicability of the PSD or NNSR regulations to existing utility boilers is uncertain. Recent enforcement cases in which one decision contradicts another make the proper and consistent application of the PSD rules difficult. For example, several cases suggest that the repair or replacement of boiler tubes (which is *not* included in this application) could trigger the need for a PSD or NNSR permit. However, boiler tube replacement is an activity undertaken by every major utility many times per year, and every boiler operator believes that boiler tube replacement is routine maintenance. Yet several court cases suggest that boiler tube replacement may not be routine. This uncertainty creates an environment where the need to secure a PSD or NNSR permit is not well defined. Companies like Detroit Edison find that it may be best to secure a PSD or NNSR permit, even if this is a conservative approach to PSD and NNSR applicability, rather than rely on use of a permit exemption.

5.1 Determining applicability of NSR at an existing major source.

The Monroe Power Plant is in an attainment area for CO, NO_x, SO_2, and lead. For modifications to major sources under the Prevention of Significant Deterioration (PSD) program, the Project's emissions increases are compared to the PSD significant emission levels to determine which pollutants trigger PSD permitting requirements. The Monroe Power Plant is in a moderate non-attainment area for ozone and PM_{10}. The applicability of Nonattainment Area New Source Review (NNSR) regulations is determined by comparing the net potential emission increase of the nonattainment pollutant to the nonattainment area significant emission rate.

The Monroe Power Plant is a major source under the PSD and NSR programs. Determining the applicability of NSR for modifications at an existing major source is a multi-step process. The first step is the calculation of the project emission changes in accordance with Michigan Administrative Rule, R 336.2801(ee). If the project emission increase is less than the PSD pollutant significance level under R 336.2801(qq), then the project does not go through PSD review for that pollutant.

If the project has an emission increase greater than the significance level for one or more pollutants, an existing major source has the option of using the second step, commonly called *netting*. Netting involves using source-wide contemporaneous emission decreases to demonstrate that the total changes to emissions at the source will not result in a significant net emission increase for that pollutant. This second step results in the calculation of a net emission increase as defined in R 336.2801(ee)(i)(B). The following is from a USEPA letter describing this process[1]:

> "Regarding applicability of PSD regulations to a given modification, you correctly state that one of the first steps is to determine whether the increase(s) in potential to emit from the modification itself is greater than the listed significance levels. The contemporaneous time period is triggered only if (1) there is a significant increase(s) in emissions and (2) there is a contemporaneous decrease(s) in emissions which could be applied against the increase in emissions. If the same pollutant is involved, the source may net the increase against the decrease. If the net emissions increase (after deducting creditable decreases) is lower than the significance level for that pollutant, the source could "net out" of PSD review for that modification."

5.1.1 Method for Determining Applicability of the PSD Rules.

Changes to Existing Units. Under the PSD applicability rules in R 336.2802(4)(c), the applicability test for projects that involve <u>changes to existing units</u> is:

[1] November 22, 1994 letter from K. A. Stein, Director, Air Enforcement Division, Office of Regulatory Enforcement, U.S. EPA, Washington, D.C., to R. Collom, Jr., Chief, Air Protection Branch, Environmental Protection Div., Georgia Department of Natural Resources, Atlanta Georgia.

> (c) The actual-to-projected-actual applicability test may be used for projects that only involve existing emissions units. A significant emissions increase of a regulated new source review pollutant is projected to occur if the sum of the difference between the projected actual emissions and the baseline actual emissions for each existing emissions unit, equals or exceeds the significant amount for that pollutant.

New Units. Under R 336.2802(4)(d), the applicability test for projects that involve new units is:

> (d) The actual-to-potential test may be used for projects that involve construction of new emission units or modification of existing emission units. A significant emissions increase of a regulated new source review pollutant is projected to occur if the sum of the difference between the potential to emit from each new or modified emission unit following completion of the project and the baseline actual emissions of these units before the project equals or exceeds the significant amount for that pollutant.

Changes to Existing Units and New Units Under R 336.2802(4)(d), the applicability test for projects that involve changes to existing units and new units is:

> (e) The hybrid test may be used for projects that involve multiple types of emissions units. A significant emissions increase of a regulated new source review pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the appropriate methods specified in this subrule as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant.

Note that the most conservative PSD applicability analysis for new and existing emissions units is the actual-to-potential test.

5.1.2 Baseline Actual Emissions.

Under R 336.2801(b) *baseline actual emissions* means:

> (b) "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated new source review pollutant, as determined by the following:
>
> (i) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. The department shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

The baseline actual emissions for the Monroe Power Plant Units 3 and 4 are summarized in Tables 5-1 and 5-2, respectively. The baseline emissions for both unit combined are summarized in Table 5-3. Baseline actual emissions have been calculated using each unit's actual production rates and fuel fired. The baseline actual emissions for each unit and pollutant in this analysis reflect the 24-month calendar period of 2005 – 2006. This period does not necessarily represent the highest 24-

month (2-year) emission rate in the past 5 year period. The specific information and data sources used to calculate the baseline actual emissions are summarized below.

Past baseline actual emissions data sources for Monroe Units 3 and 4.

Parameter	Data Source
Heat input, mmBtu per month	Measured by the continuous emissions monitoring systems (CEMS) installed under the Federal Acid Rain Program in 40 CFR Part 75.
Carbon monoxide (CO)	Emission rate based on testing conducted as part of the low NO_x cell burner projects.
Nitrogen oxides (NO_x)	Emission rate as measured by the NO_x CEMS installed under 40 CFR Part 75.
Particulate Matter (PM) and PM_{10}	Emission rate based on the emission test data during the baseline period.
Sulfur dioxide (SO_2)	Emission rate as measured by the SO_2 CEMS installed under 40 CFR Part 75.
Volatile organic compound (VOC)	Emission rate of 0.06 lb/ton of coal and a coal heat value of 8,600 Btu/lb, equal to 0.0035 lb/mmBtu.
Lead (Pb)	The emission factor for lead is from the U.S. EPA's *Compilation of Air Pollutant Emission Factors*, AP-42, 5th Ed., Table 1.1-17.
Hydrogen fluoride (HF)	The emission factor for HF is from the U.S. EPA's *Compilation of Air Pollutant Emission Factors*, AP-42, 5th Ed., Table 1.1-15.
Sulfuric acid mist (H_2SO_4)	Emission rate based on 1% of the SO_2 emissions measured by the SO_2 CEMS emitted as H_2SO_4, on a mass basis.

With respect to estimating sulfuric acid mist emissions, the U.S. EPA document, *Compilation of Air Pollutant Emission Factors*, AP 42, 5th Edition, Table 1.1-3, states that about 0.7% of fuel sulfur is emitted as SO_3. This emission rate is equal to 0.9% of fuel sulfur emitted as sulfuric acid mist. The Electric Power Research Institute Report, *Estimating Total Sulfuric Acid Emissions from Stationary Power Plants*, March 2007, states in the executive summary that "The estimates of SO_3 production from combustion of coal are consistent with theoretical predictions that approximately 1% of the sulfur in coal is converted to SO_3, although a wide range of conversions from 0.2% to 1.6% is reported, depending on coal source and boiler type." Based on these reports, Detroit Edison estimated sulfuric acid mist emissions based on 1% of the SO_2 emissions measured by the SO_2 CEMS emitted as H_2SO_4, on a mass basis. Note that the CEMS measured SO_2 emission rate is typically 70% to 80% of the uncontrolled SO2 emission rate based on fuel sulfur measurement.

TABLE 5-1. Baseline actual PSD air emissions for the Monroe Power Plant Unit 3 based on the annual average for the 24-month period of calendar years 2005 and 2006.

POLLUTANT		ACTUAL ANNUAL AVERAGE HEAT INPUT, mmBtu/yr	CONTROLLED EMISSION FACTOR, lb/mmBtu	BASELINE ACTUAL EMISSIONS, tons/yr
Carbon Monoxide	CO	41,405,210	0.238	4,927.2
Nitrogen Oxides	NO_x	41,405,210	0.414	8,579.5
Particulate Matter	PM	41,405,210	0.041	848.8
Particulate Matter	PM_{10}	41,405,210	0.041	848.8
Sulfur Dioxide	SO_2	41,405,210	1.240	25,670.8
Volatile Organic Cmpds	VOC	41,405,210	0.00353	73.1
Lead	Pb	41,405,210	0.00009	1.9
Fluorides (as HF)	HF	41,405,210	0.00882	182.7
Sulfuric Acid Mist	H_2SO_4	41,405,210	0.01899	393.1

Footnotes

1. Heat input, mmBtu per month, is measured by the continuous emissions monitoring systems (CEMS) installed under the Federal Acid Rain Program in 40 CFR Part 75.
2. The CO emission rate is based on the estimated maximum CO concentration used for the CO modeling study submitted as part of the low NO_x cell burner projects permit applications.
3. The NO_x emission rate is as measured by the NO_x CEMS installed under 40 CFR Part 75.
4. The particulate matter (PM) emission rate based on the emission test data during the baseline period.
5. The SO_2 emission rate is as measured by the SO_2 CEMS installed under 40 CFR Part 75.
6. The volatile organic compound (VOC) emission rate of 0.06 lb/ton of coal and a coal heat value of 8,600 Btu/lb, equate to 0.0035 lb/mmBtu.
7. The emission factor for lead is from the U.S. EPA's *Compilation of Air Pollutant Emission Factors*, AP-42, 5th Ed., Table 1.1-17.
8. The emission factor for HF is from the U.S. EPA's *Compilation of Air Pollutant Emission Factors*, AP-42, 5th Ed., Table 1.1-15.
9. The sulfuric acid mist (H_2SO_4) emission rate based on 1% of the SO_2 emissions measured by the SO_2 CEMS emitted as H_2SO_4, on a mass basis.

TABLE 5-2. Baseline actual PSD air emissions for the Monroe Power Plant Unit 4 based on the annual average for the 24-month period of calendar years 2005 and 2006.

POLLUTANT		ACTUAL ANNUAL AVERAGE HEAT INPUT, mmBtu/yr	CONTROLLED EMISSION FACTOR, lb/mmBtu	BASELINE ACTUAL EMISSIONS, tons/yr
Carbon Monoxide	CO	46,590,932	0.238	5,544.3
Nitrogen Oxides	NO_x	46,590,932	0.404	9,405.7
Particulate Matter	PM	46,590,932	0.016	372.7
Particulate Matter	PM_{10}	46,590,932	0.016	372.7
Sulfur Dioxide	SO_2	46,590,932	1.240	28,890.5
Volatile Organic Cmpds	VOC	46,590,932	0.003500	81.5
Lead	Pb	46,590,932	0.000090	2.1
Fluorides (as HF)	HF	46,590,932	0.008824	205.5
Sulfuric Acid Mist	H_2SO_4	46,590,932	0.018990	442.4

Footnotes

1. Heat input, mmBtu per month, is measured by the continuous emissions monitoring systems (CEMS) installed under the Federal Acid Rain Program in 40 CFR Part 75.
2. The CO emission rate is based on the estimated maximum CO concentration used for the CO modeling study submitted as part of the low NO_x cell burner projects permit applications.
3. The NO_x emission rate is as measured by the NO_x CEMS installed under 40 CFR Part 75.
4. The particulate matter (PM) emission rate based on the emission test data during the baseline period.
5. The SO_2 emission rate is as measured by the SO_2 CEMS installed under 40 CFR Part 75.
6. The volatile organic compound (VOC) emission rate of 0.06 lb/ton of coal and a coal heat value of 8,600 Btu/lb, equal to 0.0035 lb/mmBtu.
7. The emission factor for lead is from the U.S. EPA's *Compilation of Air Pollutant Emission Factors*, AP-42, 5th Ed., Table 1.1-17.
8. The emission factor for HF is from the U.S. EPA's *Compilation of Air Pollutant Emission Factors*, AP-42, 5th Ed., Table 1.1-15.
9. The sulfuric acid mist (H_2SO_4) emission rate based on 1% of the SO_2 emissions measured by the SO_2 CEMS emitted as H_2SO_4, on a mass basis.

TABLE 5-3. Total baseline actual PSD air emissions for the Monroe Power Plant Units 3 and 4 based on the annual average for the 24-month period of calendar years 2005 and 2006.

POLLUTANT		BASELINE ACTUAL EMISSIONS, tons/yr
Carbon Monoxide	CO	10,471.5
Nitrogen Oxides	NO_x	17,985.2
Particulate Matter	PM	1,221.5
Particulate Matter	PM_{10}	1,221.5
Sulfur Dioxide	SO_2	54,561.3
Volatile Organic Cmpds	VOC	154.0
Lead	Pb	4.0
Fluorides (as HF)	HF	388.2
Sulfuric Acid Mist	H_2SO_4	835.5

5.2 Projected Actual Emissions

Under R 336.2801(ll), *projected actual emissions* means:

> "Projected actual emissions" means all of the following:
>
> (i) The maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated new source review pollutant in any 1 of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any 1 of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated new source review pollutant, and full utilization of the unit would result in a significant emissions increase, or a significant net emissions increase at the major stationary source.
> (ii) In determining the projected actual emissions, before beginning actual construction, the owner or operator of the major stationary source shall do all of the following:
> (A) Consider all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the state or federal regulatory authorities, and compliance plans under the state implementation plan.
> (B) Include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions.
>
> (C) Exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth.
>
> **(iii) The owner or operator of a major stationary source may use the emissions unit's potential to emit, in tons per year, instead of calculating projected actual emissions.** (emphasis added)

5.3 PSD Applicability without BACT Control Requirements Based on the Past Actual-to-Future Potential Test.

Note that in accordance with R 336.2801(ll)(iii), above, the owner or operator may use the emissions unit's potential to emit, in tons per year, instead of calculating projected actual emissions. In determining the PSD applicability, the use of the unit's potential to emit is a worse case applicability analysis. Detroit Edison is using the current potential to emit for each unit as summarized in Table 4-1 as the worse-case analysis to determine PSD applicability. The changes to emissions for the project based on the actual-to-potential applicability test in R 336.2802(4)(d) are summarized in Table 5-4.

TABLE 5-4. PSD applicability analysis based on the comparison of the baseline actual to future potential emissions for the Monroe Power Plant Units 3 & 4 Fuel Optimization and Air Quality Improvement Project without the incorporation of BACT emission limits.

POLLUTANT		Baseline Actual	Future Potential (without BACT Controls)	Emission Increase (without BACT Controls)	PSD / NSR Significant Threshold	OVER?
Carbon Monoxide	CO	10,472	15,895	**5,424**	100	YES
Nitrogen Oxides	NO_x	17,985	34,061	**16,076**	40	YES
Particulate Matter	PM	1,222	10,419	**9,197**	25	YES
Particulate Matter	PM_{10}	1,222	10,419	**9,197**	15	YES
Sulfur Dioxide	SO_2	54,561	106,858	**52,297**	40	YES
Volatile Org. Cmpds	VOC	154.0	233.8	**79.8**	40	YES
Lead	Pb	4.0	6.0	**2.1**	0.6	YES
Fluorides (as HF)	HF	388.2	841.5	**453.3**	3.0	YES
Sulfuric Acid Mist	H_2SO_4	835.5	1,068.6	**233.1**	7.0	YES

5.3.1 Conclusions Regarding PSD Applicability.

Based on this conservative applicability analysis which compares the past actual to future potential emissions in accordance with the applicability test in R 336.2802(4)(d) and summarized in Table 5-4, the Monroe Power Plant Units 3 & 4 Fuel Optimization and Air Quality Improvement Project would be subject to the PSD and NSR programs without the incorporation of BACT emission limits.

5.4 Project Emission Changes with the BACT Control Requirements in this Permit to Install Application.

The projection of (future) projected actual annual emissions was established by rule on July 21, 1992 by U.S. EPA in the Federal Register, 57 FR 32314, called the WEPCO Rule. When calculating projected actual emissions R 336.2801(ll)(ii)(C) states:

> (C) Exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth.

The proposed Fuel Optimization and Air Quality Improvement Project will not change the annual utilization of these units, nor will these changes affect the ability of these units to accommodate increased utilization. The Monroe Power Plant Units 3 and 4 are baseload, coal-fired electric generating units. These units are normally dispatched by the Midwest Independent System Operator (MISO) near the top of the dispatch order. That is to say, these units are already utilized at a very high level. This dispatch order and the utilization of these units will not be changed by this project.

To properly exclude that portion of these unit's emissions following the change that could have been accommodated during the baseline period and that is attributable to an increase in utilization unrelated to this Project, we have excluded any increased heat input projected after the Project which exceeds the heat input in the baseline period. In other words, we used the actual heat input during the baseline period to calculate projected actual emissions. This method reflects the U.S. EPA's policy regarding pollution control projects as stated in an EPA memorandum from John Seitz dated July 1, 1994, "Pollution Control Projects and New Source Review Applicability":

> The approach in this policy is premised on the fact that EPA does not expect the vast majority of these pollution control projects to change established utilization patterns at the source. As discussed in the previous section, it is EPA's experience that add-on controls do not impact utilization, and pollution prevention projects that could increase utilization may not be excluded under this guidance. Therefore, in most cases it will be very easy to calculate the emissions after the change: the product of the new emissions rate times the existing utilization rate.

While the pollution control project (PCP) provisions of the federal PSD program were vacated by the United States Court of Appeals for the District of Columbia Circuit, Case No. 02-1387, on June 24, 2005, the Court's decision does not change EPA's underlying assertion that add on pollution control systems will not impact the utilization of the units.

The projected actual emissions for the Monroe Units 3 and 4, based on the use of the proposed selective catalytic reduction (SCR) and wet flue gas desulfurization (wet FGD) systems, and in accordance with the proposed BACT emission limits in this permit to install application, are presented in Tables 5-5 and 5-6, respectively.

Projected actual emissions data sources for Units 3 and 4.

Parameter	Data Source
Heat input, mmBtu per month	To exclude emissions following the Project that could have been accommodated during the baseline period and that is attributable to an increase in utilization unrelated to this Project, the projected heat input is the same as the actual heat input during the baseline period.
Carbon monoxide (CO)	The projected emission rate is the same rate as in the baseline period.
Nitrogen oxides (NO_x)	The emission rate is based on the proposed BACT emission limit of 0.10 lb/mmBtu.
Particulate Matter (PM) and PM_{10}	The PM emission rate is based on a 30% reduction of the PM emission rate measured in the baseline period from the wet FGD systems.
Sulfur dioxide (SO_2)	The emission rate is based on the proposed BACT emission limit of 0.15 lb/mmBtu.
Volatile organic compounds (VOC)	The projected emission rate is the same rate as in the baseline period.
Lead (Pb)	The emission rate is the expected emission rate of 24.1 pounds per trillion Btu.
Hydrogen fluoride (HF)	The emission rate is the expected emission rate of 756 pounds per trillion Btu.
Sulfuric acid mist (H_2SO_4)	The emission rate is the expected emission rate of 0.0064 lb/mmBtu.

5.4.1 Conclusions Regarding Project Emission Changes Based on This Permit Application.

Table 5-7 is a summary of the project emission changes for the Monroe Power Plant Units 3 & 4 Fuel Optimization and Air Quality Improvement Project based on the proposed BACT emission limits in this application. Table 5-8 is a summary of the changes to the potential to emit for the Monroe Units 3 and 4 based on the proposed limits in this Permit to Install application. From Tables 5-7 and 5-8, the project will result in substantial reductions in potential and actual emissions of nitrogen oxides (NO_x), particulate matter (PM), sulfur dioxide (SO_2), mercury (Hg), sulfuric acid mist (H_2SO_4), lead (Pb), and fluorides (as HF).

TABLE 5-5. Projected actual PSD air emissions for the Monroe Power Plant Unit 3. The projected actual emissions are based on the same annual heat input as in the baseline period.

POLLUTANT		PROJECTED ANNUAL HEAT INPUT, mmBtu/yr	CONTROLLED EMISSION FACTOR, lb/mmBtu	PROJECTED ACTUAL EMISSIONS, tons/yr
Carbon Monoxide	CO	41,405,210	0.238	4,927.2
Nitrogen Oxides	NO_x	41,405,210	0.100	2,070.3
Particulate Matter	PM	41,405,210	0.029	594.2
Particulate Matter	PM_{10}	41,405,210	0.029	594.2
Sulfur Dioxide	SO_2	41,405,210	0.150	3,105.4
Volatile Organic Cmpds	VOC	41,405,210	0.0035	72.5
Lead	Pb	41,405,210	0.000024	0.5
Fluorides (as HF)	HF	41,405,210	0.000756	15.7
Sulfuric Acid Mist	H_2SO_4	41,405,210	0.0064	132.5

Footnotes

1. Because the project will not change the utilization of the unit, the projected heat input is the same as in the baseline period.
2. The NO_x, SO_2, VOC, lead, fluorides, and sulfuric acid mist emission rates are based on the proposed BACT emission rates.
3. The PM emission rate is based on a 30% reduction of the PM emission rate measured during the emission test conducted on 4/6/2005.

TABLE 5-6. Projected actual PSD air emissions for the Monroe Power Plant Unit 4. The projected actual emissions are based on the same annual heat input as in the baseline period.

POLLUTANT		PROJECTED ANNUAL HEAT INPUT, mmBtu/yr	CONTROLLED EMISSION FACTOR, lb/mmBtu	PROJECTED ACTUAL EMISSIONS, tons/yr
Carbon Monoxide	CO	46,590,932	0.238	5,544.3
Nitrogen Oxides	NO_x	46,590,932	0.100	2,329.5
Particulate Matter	PM	46,590,932	0.011	260.9
Particulate Matter	PM_{10}	46,590,932	0.011	260.9
Sulfur Dioxide	SO_2	46,590,932	0.150	3,494.3
Volatile Organic Cmpds	VOC	46,590,932	0.0035	81.5
Lead	Pb	46,590,932	0.0000241	0.6
Fluorides (as HF)	HF	46,590,932	0.000756	17.6
Sulfuric Acid Mist	H_2SO_4	46,590,932	0.0064	149.1

Footnotes

1. Please refer to the footnotes in Table 5-6. The PM emission rate is based on a 30% reduction of the PM emission rate measured during the emission test conducted on 5/12/2002.

TABLE 5-7. Comparison of the past actual to projected actual emissions for the Monroe Power Plant Units 3 and 4 Fuel Optimization and Air Quality Improvement Project. The changes are for both Units 3 and 4 combined.

POLLUTANT		Past Actual, Ton/year	Projected Actual with BACT Controls, Ton/year	Net Emission Increase (Decrease), Ton/year
Carbon Monoxide	CO	10,472	10,472	**0.0**
Nitrogen Oxides	NO_x	17,985	4,400	(13,585.4)
Particulate Matter	PM	1,222	855	(366.5)
Particulate Matter	PM_{10}	1,222	855	(366.5)
Sulfur Dioxide	SO_2	54,561	6,600	(47,961.6)
Volatile Organic Cmpds	VOC	154.0	154.0	**0.0**
Lead	Pb	3.96	1.06	(2.9)
Fluorides (as HF)	HF	388.2	33.3	(355.0)
Sulfuric Acid Mist	H_2SO_4	835.5	281.6	(553.9)

TABLE 5-8. Changes to the potential to emit for the Monroe Power Plant Units 3 and 4 Fuel Optimization and Air Quality Improvement Project. All emissions in tons per year. The changes are for both Units 3 and 4 combined.

POLLUTANT		Current Potential to Emit	Proposed Potential to Emit with BACT Controls	Change to the Potential to Emit
Carbon Monoxide	CO	15,895	15,895	**0**
Nitrogen Oxides	NO_x	34,061	6,679	(27,382)
Particulate Matter	PM	10,419	2,004	(8,415)
Particulate Matter	PM_{10}	10,419	2,004	(8,415)
Sulfur Dioxide	SO_2	106,858	10,018	(96,840)
Volatile Org. Cmpds	VOC	234	234	**0**
Lead	Pb	6.01	1.61	(4.4)
Fluorides (as HF)	HF	842	50	(791)
Sulfuric Acid Mist	H_2SO_4	1,069	427	(641)

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA Plaintiff, and NATURAL RESOURCES DEFENSE COUNCIL, and SIERRA CLUB Plaintiff-Intervenors v. DTE ENERGY COMPANY, and DETROIT EDISON COMPANY Defendants.	)	Civil Action No. 2:10-cv-13101-BAF-RSW Judge Bernard A. Friedman Magistrate Judge R. Steven Whalen

PLAINTIFF'S REPLY IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE LEGAL STANDARDS AT ISSUE IN THIS CASE

Exhibit 3

United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 03-1380 **September Term, 2005**

Filed On: June 30, 2006 [977881]

State of New York, et al.,
Petitioners

v.

Environmental Protection Agency,
Respondent

Clean Air Implementation Project, et al.,
Intervenors

Consolidated with 03-1381, 03-1383, 03-1390, 03-1402, 03-1453, 03-1454, 04-1029, 04-1035, 04-1064, 05-1234, 05-1287

BEFORE: Rogers, Tatel, and Brown, Circuit Judges

ORDER

Upon consideration of respondent's petition for rehearing filed May 1, 2006, it is

ORDERED that the petition be denied.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

BY:
Michael C. McGrail
Deputy Clerk

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA Plaintiff, and NATURAL RESOURCES DEFENSE COUNCIL, and SIERRA CLUB Plaintiff-Intervenors v. DTE ENERGY COMPANY, and DETROIT EDISON COMPANY Defendants.	Civil Action No. 2:10-cv-13101-BAF-RSW Judge Bernard A. Friedman Magistrate Judge R. Steven Whalen

PLAINTIFF'S REPLY IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE LEGAL STANDARDS AT ISSUE IN THIS CASE

Exhibit 4

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 03-1380 **September Term, 2005**

Filed On: June 30, 2006 [977876]

State of New York, et al.,
Petitioners

v.

Environmental Protection Agency,
Respondent

Clean Air Implementation Project, et al.,
Intervenors

Consolidated with 03-1381, 03-1383, 03-1390, 03-1402, 03-1453, 03-1454, 04-1029, 04-1035, 04-1064, 05-1234, 05-1287

BEFORE: Ginsburg, Chief Judge, and Sentelle, Henderson, Randolph, Rogers, Tatel, Garland, Brown, Griffith, and Kavanaugh,* Circuit Judges

ORDER

Upon consideration of respondent's petition for rehearing en banc, and the absence of a request by any member of the court for a vote, it is

ORDERED that the petition be denied.

Per Curiam

FOR THE COURT:
Mark J. Langer, Clerk

BY:

Michael C. McGrail
Deputy Clerk

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 03-1380 **September Term, 2005**

*Circuit Judge Kavanaugh did not participate in this matter.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA Plaintiff, and NATURAL RESOURCES DEFENSE COUNCIL, and SIERRA CLUB Plaintiff-Intervenors v. DTE ENERGY COMPANY, and DETROIT EDISON COMPANY Defendants.	)	Civil Action No. 2:10-cv-13101-BAF-RSW Judge Bernard A. Friedman Magistrate Judge R. Steven Whalen

PLAINTIFF'S REPLY IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE LEGAL STANDARDS AT ISSUE IN THIS CASE

Exhibit 5

FILED UNDER SEAL

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN

UNITED STATES OF AMERICA Plaintiff, and NATURAL RESOURCES DEFENSE COUNCIL, and SIERRA CLUB Plaintiff-Intervenors v. DTE ENERGY COMPANY, and DETROIT EDISON COMPANY Defendants.	)	Civil Action No. 2:10-cv-13101-BAF-RSW Judge Bernard A. Friedman Magistrate Judge R. Steven Whalen

PLAINTIFF'S REPLY IN SUPPORT OF ITS MOTION FOR PARTIAL SUMMARY JUDGMENT ON THE LEGAL STANDARDS AT ISSUE IN THIS CASE

Exhibit 6

FILED UNDER SEAL

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]